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ABSTRACT

This document comprises two papers. The stated purpose of the first paper was to describe the development of the "Cultural Attitude Scales" (CAS), a pictorial measure designed to assess attitudes toward the black, Puerto Rican, and Anglo-American cultures. The development of the CAS encompassed: (1) the derivation of an item pool from interviews and discussions with parents, pupils, and teachers of each of the target cultural groups; (2) systematic selections and selections by a group of adolescent student judges representing each of the target cultures; and (3) item analysis based on the responses of 336 students in the elementary grades representing these three cultures. The end product was a scale of 15 pictorial items for each of the three cultures with Likert-type response options in the form of faces. The stated purpose of the second paper was to report a study designed to determine the reliability and validity of the CAS using a sample of 330 Anglo-American, black American, and Puerto Rican pupils in grades 1-6. Evidence of construct validity was revealed in the pattern of the mean scores for each cultural group in the same sample of pupils. Evidence of criterion validity were revealed in terms of its statistically significant relationship to the results of a teacher rating scale (r=.32 to .46). (Author/JM)

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The Validation of a Scale Designed to Measure Cultural Attitudes

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The need for appropriate instrumentation and psychometric studies related to the evaluation and enhancement of cultural attitudes of the pluralistic population of American public schools represents a recent trend (Cooke, 1973). Although the measurement of cultural attitudes became a point of interest prior to World War II (Shaw and Wright, 1967), most of the earlier efforts focused upon the cross-national attitudes of adults on college students.

Bogardus' Social Distance Scale (1925, 1933) was one of the first and most commonly used instruments. The Bogardus' scale requests the subjects to indicate those statements which they consider applicable to given national or religious groupings. This instrument is obviously not appropriate for young children in a school setting.

The semantic differential technique developed by Osgood, Suci, and Tannenbaum (1957) has more recently been utilized to measure cross-cultural attitudes. The use of their scale, which is based upon pairs of bipolar adjectives (ex: "good-bad," "strong-weak," and "fast-slow") is somewhat limited by the spatial and linguistic capacities of young children. Moreover, this technique tends to focus on global, abstract stimuli.

The need for more specific and tangible stimuli and response modes relevant to minority-as well as majority-group children in the school setting prompted the development by Jackson and Klinger (1971) of the Cross-Cultural Attitude Scale. This scale incorporates pictorial stimuli representing concrete components of the

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ABSTRACT
(CAS Validation)

The purpose of this study was to determine the reliability and validity of the Cultural Attitude Scales (CAS), a pictorial resource designed to assess attitudes toward the Black, Puerto Rican, and Anglo-American ways of life.

Split half reliability coefficients adjusted by the Spearman-Brown formula ranging from .68 to .77 were obtained based on a sample of 330 Anglo-American, Black-American and Puerto Rican pupils in grades 1-6.

Test-retest reliability coefficients obtained over a three-week interval with a multi-cultural sample of 196 elementary school pupils ranged from .52 to .61.

Evidence of the construct validity of the CAS ws revealed in the pattern of the mean scores for each cultural group in the same sample of pupils. Evidences of the criterion validity of the CAS were revealed in terms of its statistically significant relationship to the results of a teacher rating scale (r=.32* to .46**).

The authors concluded that the reliability and validity of this instrument were moderately satisfactory in light of the general lack of psychometrically sound and educationally practicable instruments in this area.

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Mexican-American and Anglo-American cultures. Its pictorial response mode consists of five faces on a happy-sad dimension, graphically representing a 1-to-5 Likert-type scale. The use of faces as a response mode has been used with regard to self-concept research (e.g., Dysinger's Why Do I Smile Scale, Estes' Attitude Towards Reading Faces Scale, Farrah's Self-Concept and Motivation Inventory, Frymier's Attitude Towards School Scale, Labriola's FACES Inventory, and Strickland's Attitude to School Scale).

The Cultural Attitude Scales (CAS)* are designed to measure cultural attitudes and knowledge with respect to the Puerto Rican, Anglo-American, and Black-American cultures. They are applicable to programs which propose to enhance ethnic identity or cross-cultural understanding among any one or more of these three ethnic groups. These scales do not require reading ability; rather, they are based upon pictorial stimuli and response options. The directions are particularly appropriate for elementary school programs involving children who may differ culturally and linguistically.

The fifteen stimuli for each of the three scales are graphic illustrations of the dress, sports, foods, and popular symbols of the Puerto Rican, Anglo-American, and Black-American cultures, respectively. The child indicates his attitude toward each pictorial stimulus by marking one of five faces on a happy-sad Likert-type scale. There is also an alternate response option indicating no knowledge of the particular cultural referent. Each scale thus yields two scores: a cultural attitude index and a cultural knowledge index.

The purpose of the studies presented in this manuscript was to determine the reliability and validity of the CAS. A description of the item development procedures and evidence of content validity were given in a previous article.

*The Cultural Attitude Scales are available from Learning Concepts, 2501 North Lamar, Austin, Texas 78705.

RELIABILITY

Split-half reliability coefficients adjusted by the Spearman-Brown formula for length were obtained from a sample of 330 Anglo-American, Black-American and Puerto Rican pupils in grades 1 - 6. The coefficients for the Anglo-American and Puerto Rican scales were .77 and the coefficients for the Black-American scale was .68. Each was significant at the .001 level. Thus, in light of the construct being measured, the scales are deemed to be internally consistent.

The test-retest reliability coefficients obtained over a three-week interval with a sample of Anglo-American, Black-American, and Puerto Rican students distributed across grades 1-6 are reported in Table I.

Table I

TEST-RETEST RELIABILITY COEFFICIENTS

	Black-American Pupils (n=39)	Puerto Rican Pupils (n=56)	Total, incl. 12 Anglo Pupils (n=101)
Black-American Scale	.61	.60	.59
Puerto Rican Scale	.52	.58	.53
Anglo-American Scale	.57	.61	.60

As may be seen by viewing this table, the test-retest reliability coefficients ranged from .52 to .61 and were statistically significant at the .01 level. Hence, the stability of the measure across time is established.

VALIDITY

Evidence of the construct validity of the CAS is revealed in Table II. As may be seen by viewing this table, the most knowledgeable and favorable cultural group

for each measure was generally the one represented by that measure. The corresponding F-ratios indicate that the means were significantly different.

TABLE II
ATTITUDE AND KNOWLEDGE SCORES
FOR EACH GROUP

Module	Construct	Subjects A-A	Subjects B-A	Subjects P.R.	F-Ratio
Anglo-American	Attitude	4.58	4.20	4.37	8.62**
	Knowledge	14.84	11.0	9.14	14.07**
Black-American	Attitude	3.76	4.24	3.67	37.07**
	Knowledge	14.54	13.96	12.54	37.84**
Puerto-Rican	Attitude	3.85	3.85	4.34	20.34**
	Knowledge	13.77	11.43	13.43	37.21**

** $p < .01$

Moreover, the highest attitude and knowledge score for any one group generally coincided with the respective measure. That is, for example, the highest Anglo-American attitude of 4.58 was found in the Anglo-American scale, surpassing the other Anglo-American means of 3.76 and 3.85 for the Black American and Puerto Rican scales.

In order to further assess the validity of the CAS, data were collected reflective of the relationship between the results of the instrument and those of the following external criteria: 1) a teacher rating scale, 2) a sociogram, and 3) a verbal attitude scale.

In substudy 1, the teachers of 330 Anglo-American, Black-American, and Puerto Rican pupils in grades 1-6 were asked at the end of the school year to rate the attitude of each of their pupils towards each of the three cultures on a 1 (very negative) to 5 (very positive) Likert-type scale. At the same time and independent

of the teachers' ratings, the pupils were tested by outside examiners with the CAS scales. The correlation coefficients between the teacher ratings and test results for each target culture are given in Table III.

Table III

RELATIONSHIP BETWEEN TEACHER RATINGS AND TEST RESULTS
N=330

Black-American	.23**
Puerto Rican	.15**
Anglo-American	.34**

** $p < .01$

As it can be seen in Table III, the results of the teacher ratings and the CAS results were statistically significant beyond the .01 level for each of the three target cultural groups. Although the correlations were lower than expected, minimal support for the CAS is realized.

Substudy 2 was designed to explore the relationship between the CAS scores and the results of a sociogram in terms of ethnicity. A sample of 102 pupils in five multi-ethnic classrooms (grades 2-4) were asked to indicate their sociometric choices according to a technique described by Cohen (1969). The pupils were each given a number which is clearly visable. After arranging their seats in a large circle, the examiner directs the children in a game which results in listing their two preferred choices for "playing with", "working with", and "sitting with". The responses were analysed according to ethnicity so as to generate Anglo-American, Black-American and Puerto Rican socio-values for each subject.

The same subjects were tested the following day with the CAS. The correlation analysis between the sociogram scores and the CAS scores are reported in Table IV. It was hypothesized that a significant relationship would emerge between the pupils' ethnic choices on the sociogram and their ethnic attitudes as revealed by the CAS.

Table IV

CORRELATION COEFFICIENTS BETWEEN SOCIOGRAM SCORES AND CAS RESULTS WITH RESPECT TO ETHNICITY
N=102

Black American	.18
Puerto Rican	.28**
Anglo-American	.21*

* $p < .05$
** $p < .01$

As shown by Table IV, the relationship between the sociometric criterion and the CAS instrument approached significance with respect to the Black-American culture and attained significance with respect to the Anglo-American and Puerto Rican cultures beyond the .05 and .01 levels, respectively. Although sociometric choices within multi-ethnic classrooms certainly entail a complex of individual factors including ethnicity as only one facet, the relationship between the ethnic choices of the sociogram and the cultural attitudes from the CAS provides further evidence of the validity of the instrument's scales.

In substudy 3, the results of each scale were compared with those of a verbal criterion measure of cultural attitudes. The criterial measure selected for this substudy was based upon Zelig's (1948) and Miller & Biggs (1958) adaptations of Bogardus' techniques for use with adolescent students. The subjects consisted of 87 pupils in grades six and seven (n=29 for each ethnic group). This upper limit

of the grade range for the CAS was selected to attain a practicable level for administering the criterion instrument. Moreover, the criterion instrument was presented bilingually to assure comprehension and uniformity in the verbal stimuli. The correlation coefficients obtained between the Cultural Attitude Scales and the verbal criterion are given in Table V for each ethnic subgroup:

Table V

CORRELATION COEFFICIENTS BETWEEN CAS AND VERBAL CRITERION

Black-American Scale	.46**
Puerto Rican Scale	.32**
Anglo-American Scale	.39**

**p < .01

As revealed by Table V, the relationship between the verbal criterion and the attitude scale for each culture attained significance beyond the .01 level. These results provide further evidence of the concurrent validity of the Cultural Attitude Scales.

The relationship between the scores of the CAS and the organismic variables of sex, age, and grade were examined for the first substudy's sample of 330 pupils. In contrast to the criterion variables, these variables should be independent of the test's results. The relationships are reported in Table VI.

Table VI

CORRELATION COEFFICIENTS BETWEEN CAS SCORES AND ORGANISMIC VARIABLES

	Sex	Age	Grade
Black-American	.06	.02	.13*
Puerto Rican	-.03	.02	-.06
Anglo-American	.12*	.03	-.06

* $p < .05$

As hypothesized, the relationship between the CAS and the organismic variables were generally low and not statistically significant, indicating the relative independence of the test instrument.

As a final support of the validity of the CAS, the intercorreltions between the three scales were generated (see Table VII). Although independent measures, one would expect a moderate interrelationship between them as a reflection of the generality of the psychological constraints of the "culture" and of "attitude."

Table VII

INTERCORRELATIONS BETWEEN THE THREE SCALES

	Black-American	Puerto Rican
Puerto Rican	.14	
Anglo-American	.33**	.55**

** $p < .01$

As indicated in Table VII, the intercorrelations indicated a moderate degree of commonality.

SUMMARY AND CONCLUSIONS

Various substudies provided general evidence of the validity and reliability of the CAS. The development process provided evidence of the content validity of the CAS. The test-retest and split-half reliability coefficient reflected a moderate degree of stability and internal consistency for each modular measure, especially when compared to previous instruments in this area. The degree and directionality of the means of the three scales supported the claim of construct validity. Evidence of the criterion validity of the CAS was revealed in the statistically significant correlation coefficients between its results and external teacher ratings, sociometric choices, and verbal measures of cultural attitudes. Thus, the CAS should be regarded as a promising instrument, but certainly additional efforts must be expended in the quest for an adequate measure of cultural attitudes.

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